

Art Unit: 1636

CLAIMS PTO 09/664,186

ZADAMS 07/25/2004

Claim 1 is Original.

1. An isolated DNA encoding a *Thermus sp.* plasmid replication protein, said isolated DNA comprising the sequence of SEQ ID NO:4 or conservatively modified variants thereof.

Claim 2 is amended.

02 2. (amended) A recombinant plasmid comprising at least one *Thermus sp.* replication origin, wherein said replication origin [includes] is contained within the isolated DNA sequence of claim 1.

Claim 3 is amended.

131 3. ~~Amended~~ The recombinant plasmid of claim 2, further comprising at least one promoter sequence selected from the group of DNA sequences of SEQ ID NO:6 consisting of residues 27-32 of SEQ ID NO:6, residues 50-55 of SEQ ID NO:6, residues 86-90 of SEQ ID NO:6 and residues 109-114 of SEQ ID NO:6.

Claims 4-5 are original.

4. An *E. coli sp.* host cell transformed with the recombinant plasmid of claims 2 or 3.

5. A *Thermus sp.* host cell transformed with the recombinant plasmid of claims 2 or 3.

Claim 6 is amended.

Art Unit: 1636

6. (amended) An isolated DNA encoding a *Thermus sp.* [Promoter] promoter, wherein said isolated DNA is selected from the [group consisting of the] DNA sequence of [SEQ ID NO:6] SEQ ID NO:5, -10 TATTTT, -35, TTGCCA, 17 bp spacing; or -10 TAGGGT, -35, TTGCCC, 18 bp spacing [residues 27-32 of SEQ ID NO:6, residues 50-55 of SEQ ID NO:6, residues 86-90 of SEQ ID NO:6, and residues 109-114 of SEQ ID NO:6].

Claims 7-10 are original.

7. An isolated DNA encoding a *Thermus sp.* plasmid replication protein, said isolated DNA comprising the sequence of SEQ ID NO: 7 or conservatively modified variants thereof.

8. A recombinant plasmid comprising the isolated DNA sequence of claim 7 and a functional replication origin comprising the DNA sequences of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:9, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, SEQ ID NO:14, and SEQ ID NO:15 and the complements of the DNA sequences of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:9, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, SEQ ID NO:14, and SEQ ID NO:15.

9. An *E. coli sp.* host cell transformed with the recombinant plasmid of claim 8.

10. A *Thermus sp.* host cell transformed with the recombinant plasmid of claim 8.

Claim 11 is canceled.

Application/Control Number: 09/664,186

Page 4

Art Unit: 1636